

EQ: How are congruence and similarity used to show relationships between shapes?

Congruent figures are _____. This means that they have the same _____ and _____.

Polygons are congruent if _____ have the same length and _____ have the same measure (Remember: “Corresponding” means they have the same position.)

Triangles can be shown to be congruent by _____ (_____), _____ (_____), or _____ (_____).

If you have two triangles congruent by **SAS**, this means you have two _____ in each triangle and the _____ in between. Notice that in “**SAS**,” the angle is between the sides.

If you have two triangles congruent by **ASA**, this means you have two _____ in each triangle and the _____ in between. Notice that in “**ASA**,” the side is between the angles.

If you have two triangles congruent by **SSS**, this means you have each _____ is equal to another in the other triangle.

Two congruent triangles have each corresponding parts of the triangles congruent as well.

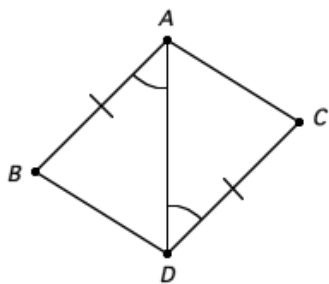
Similar figures have the same _____ but different _____.

Similar figures are _____ in size. This means you can set up proportions to find different measures.

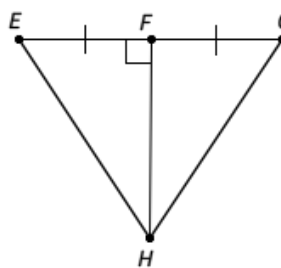
With similar polygons, not only are sides proportional, but _____ and _____ are, too.

Example 1: The given triangles are congruent. By which method (SAS, ASA, SSS) are the following congruent? How do you know?

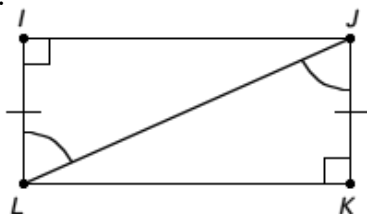
a.



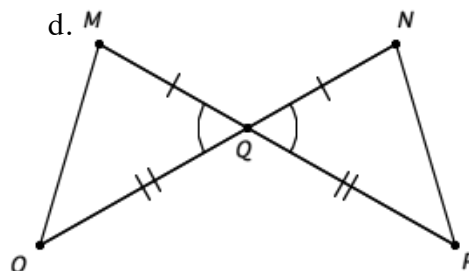
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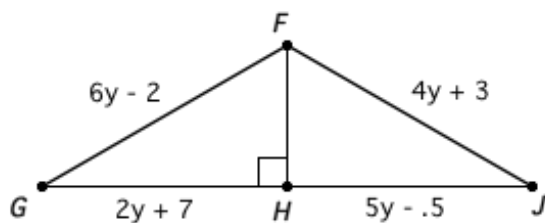
c.



d.



Example 2: Triangle FHG is congruent to triangle FHJ . Find the lengths of \overline{FG} , \overline{FJ} , \overline{GH} , \overline{HJ} , and \overline{FH} .



Example 3: The figures are similar isosceles trapezoids. What is the ratio of the perimeter of the larger trapezoid to the perimeter of the smaller trapezoid? What is the ratio of the area of the larger to the smaller?

